

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/016312

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> B23D53/04, B23D55/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> B23D53/04, B23D55/00-55/06, B27B13/00, B27B15/00, B28D1/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 11-104915 A (Kabushiki Kaisha Amada Engineering Center), 20 April, 1999 (20.04.99), Par. Nos. [0016] to [0020]; Figs. 1 to 4 (Family: none)	1-3 5
X	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 139524/1985 (Laid-open No. 50015/1987) (Toshiba Corp.), 27 February, 1987 (27.02.87), Page 3; Fig. 1 (Family: none)	1, 2

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier application or patent but published on or after the international filing date  
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
"&" document member of the same patent family

Date of the actual completion of the international search  
02 February, 2005 (02.02.05)

Date of mailing of the international search report  
15 February, 2005 (15.02.05)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 63-39718 A (Amada Co., Ltd.), 20 February, 1988 (20.02.88), Page 7, lower right column to page 8, upper left column; Fig. 1 (Family: none)	5
X	EP 967041 A1 (KEURO Besitz GmbH. & Co. EDV-Dienstleistungs KG.), 29 December, 1999 (29.12.99), Par. Nos. [0040] to [0045]; Figs. 9 to 10 & JP 2000-24834 A Par. Nos. [0016] to [0017], [0022]; Figs. 8 to 9 & DE 19828589 A & US 2002-73818 A1	18-21
P, X	JP 2004-42210 A (Amada Co., Ltd.), 12 February, 2004 (12.02.04), Full text; all drawings (Family: none)	18-21
A	JP 45-31116 Y2 (Isamu AMADA), 28 November, 1970 (28.11.70), Full text; all drawings (Family: none)	1-7
A	JP 57-127621 A (Amada Co., Ltd.), 07 August, 1982 (07.08.82), Full text; all drawings (Family: none)	8-17
A	JP 46-1489 Y2 (Isamu AMADA), 19 January, 1971 (19.01.71), Full text; all drawings (Family: none)	18-21
A	JP 2001-179535 A (Kabushiki Kaisha Amada Engineering Center), 03 July, 2001 (03.07.01), Full text; all drawings (Family: none)	18-21

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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-4 are formed such that a projected amount from the guide posts to the front of the wheels, the occurrence of vibration when a work is cut by the band saw blade is suppressed, the tension of the endless band saw blade wrapped around the drive wheel and the driven wheel is received by the pair of guide posts to miniaturize the device by reducing the dimensions thereof in the longitudinal direction, and the saw blade travel parts on the upper and lower sides of the band saw blade are positioned on the front and rear sides of the guide posts. Claims 5-7 are formed such that  
(continued to extra sheet)

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

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Continuation of Box No.III of continuation of first sheet(2)

when a worker installs those portions other than the upper travel portion on the drive wheel and the driven wheel when installing the band saw blade on the drive wheel and the driven wheel, the band saw blade is inserted thereinto through a slit in a band saw guide means to easily install the band saw blade without allowing the teeth part of the band saw blade to interfere with a band saw machine device body. Claims 8-17 are formed such that a saw blade drive unit is brought into a floated state from the saw blade housing in the saw blade rotating direction to avoid damage to the band saw blade and reduce vibration and noise by reducing an impact force by a saw blade cutting resistance generated when cutting is performed and a reaction force generated in the opposite direction of the rotating direction of the saw blade about the axis of the drive wheel is absorbed by the elasticity of the cushioning part. Claims 18-21 are formed such that, to form the device in a structure not having the movement structure of a body vice and an exclusive structure such as the relief structure of the band saw blade by preventing the work from being brought into contact with the band saw blade, the work is moved rearward by a material feed vice and, for example, a rear insert is moved rearward relative to a front insert when the band saw blade is returned to the original position after the work is cut with the band saw blade to open the rear insert, to tilt the band saw blade by the torsional return force of the band saw blade, to relieve the edge of the band saw blade from both cutting faces, and to return the band saw blade to the original position.